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ABSTRACT

A model of the influences on teacher practice and student learning is formulated and illustrated by analyzing the practice of 12 high school history teachers in 6 schools. Since the data base contains both observations of 228 lessons, as well as extensive interviews with teachers and department chairs, it is possible to assess the opportunity for student learning presented by instruction, analyze the degree of consonance between teacher goals and practice, and investigate various explanations for differential opportunity to learn. Teachers at the three schools serving a higher proportion of college bound students were found to include critical thinking and writing skills among their goals, in contrast to the other teachers who focused more narrowly on content goals. The four teachers who appeared most successful at meeting their goals were found in the schools serving primarily college bound students. Differences in teacher practice are explained by school and individual level factors, including school resources, departmental leadership, and teacher content/pedagogic knowledge. Implications of the study for teacher education are discussed. (Author/JD)

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A Model of the Influences on Teacher Practice and Student Learning:

Case Studies of Twelve Teachers Inform Preservice and Inservice Teacher Education

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Our goal as teacher educators is to educate professional teachers who are successful at producing student learning. Multiple actors are involved in this process. University faculty conduct preservice, graduate, and inservice programs; school personnel create inservice programs and opportunities, while trying to maintain a working environment that promotes continued teacher learning. This task is complicated by the ever-changing nature of the educational process and the limited opportunities for additional substantive teacher education once the teacher begins his* career. The teacher completing a preservice program in 1990 may continue his career into the 2030's, and he will be continually called on to adapt to the changing realities of the educational system. Enumeration of several such realities confirms the need to educate teachers who will continue their learning in order to successfully adapt their practice. First, the knowledge base for teaching, both content and pedagogical, continues to expand. Second, the responsibilities placed on teachers to take on various administrative and social welfare functions continue to increase (Carnegie,1986; Goodlad,1983). Finally, the increasing diversity of the student population, especially the growing number of disadvantaged students (Pallas, et al,1989) calls for preservice and continuing teacher education which assists the professional in tailoring instruction to the diverse needs of students.

Concurrent with the realities of an expanding knowledge base and increasing teacher responsibilities, educational reformers are in the midst of reassessing our goals for student learning. The thrust of much of this reform is to alter teaching strategies so that students will no longer be simply passive recipients of knowledge but will be actively involved in the construction of knowledge. In the field of social studies, which is the focus of the research to be described, two reform groups have sought to effect such changes by calling for an increased focus on critical thinking skills, the development of analytical perspectives, furthering student abilities to understand causation, and enabling students to frame meaningful questions (Bradley Commission,1988; National Commission on Social Studies,1989). While reformers hold these goals for all students, numerous research studies have shown that such goals are typically stressed only in college preparatory/high SES schools and/or in high ability groups (see review by Murphy & Hallinger,1989; Curtis & Shaver,1980; Newmann,1988; Page,1989). Given this reality, the task of educating teachers to value such reform

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* Male pronouns will be used in this paper since the research to be reported concerns a group of male secondary teachers, however, general reference to female teachers is also assumed

goals and to succeed in reaching these goals with a variety of students in a range of settings is clearly a challenge.

In order to increase teacher effectiveness, one must be able to identify and understand the variables which influence the teacher and his practice, especially those that are amenable to policy reform. Given all of the complexities and realities inherent in teacher education, we need a better understanding of what knowledge is needed for teaching, when the knowledge should be acquired, and what conditions facilitate teaching and further learning. Taking high school teaching as our example, this paper presents a model elucidating the variables which influence teacher practice, and in turn, influence the learning of students. The model is generated from review of theoretical and empirical research, then illustrated using case studies of twelve high school United States History teachers. Examination of the model and illustrative teacher cases will result in policy recommendations concerning the practice of preservice education and staff development.

A Model of Influences on Teacher Practice

The Model of Influences on Teacher Practice (see figure in appendix) sketches out the key determinants of teacher practice and the process by which teacher practice influences student learning. In order to assist comprehension of this complex process, the Model focuses on key or suggestive variables. Although it is certainly not a complete rendering of the influences on practice, it provides a frame for discussing the practice of teachers and speculating on policy alternatives. In brief, the lower third of the Model focuses on the teacher's formulation of practice and his influence on student learning. The remainder of the Model attempts to capture the array of influences on the teacher, both those that originate in the current school environment, as well as the prior influences from the teacher's background.

The Process of Teacher Practice

Working backwards through the Model, one must first examine how teacher practice influences student learning. The Model and the research to be described utilize the concept of opportunity to learn in order to understand and assess the influence of teaching on student learning. Opportunity to learn refers to the content, tasks, and teacher-student interactions involved in any learning situation, and serves as one way of judging the quality of instruction. This perspective incorporates the work of Carroll (1963;1989), but goes beyond Carroll's initial conceptualization of time use to examine what type of instruction occurs within that time frame, as well as to

assess how meaningfully engaged students are in the instruction (Harnischfeger & Wiley,1985; Marshall,1988). Thus, the opportunity to learn that is afforded by teacher practice must be examined in two ways: first, how successful the teacher is in engaging students in instruction (can be measured as time spent in instruction and student on-task behavior); and second, how effectively instruction results in meeting teacher goals (can be examined through analysis of the content, in-class activities, and homework tasks presented, as well as the nature of student involvement in these tasks). Continuing backwards through the Model, the teacher constructs his plans for practice within his existing knowledge, belief, and goal system which is influenced by the myriad of variables in the upper portion of the Model.

The teacher's belief system occupies the mediating position between all potential influences and teacher practice. Such goal and belief systems are formed over time and filter all incoming stimuli/influences (Nespor,1987). Of course, this belief system is heavily influenced by prior teaching and one's own education, and this previous experience and education helps to determine the teacher's inclination to engage in further learning opportunities; a characteristic that will allow the teacher to successfully adapt his practice over a career. In addition, the feedback a teacher receives from his/her students can also result in seeking out further learning opportunities.

Teaching Environment Influences

Turning now to an examination of the contemporary influences presented by the teaching environment of the district, school, and department, one sees that these influences are not terribly direct. First the teacher must decided whether to attend to these influences and engage in learning opportunities, and only then is there potential for the influences to alter the teacher's belief system. Nonetheless, some of the institutional and staff development factors which constitute working conditions are extremely potent influences. For example, institutional decisions concerning work load (number of preparations, number of students, availability of secretarial support, etc.) have a direct impact on the classroom environment, and if unreasonable, may have a negative influence on the propensity of teachers to engage in further learning. Certainly the fact that secondary teachers work more than 50 hours per week and often experience an overload of work may result in working conditions having a negative impact on teacher practice (Little,1989). Variables within the realm of staff development such as the nature of departmental leadership and collegial relations also contribute to the quality of working conditions. Unfortunately, many secondary

teachers work in settings lacking leadership and clear goals (Little,1989), and would benefit from increased collegiality, more inclusion in governance, and increased meeting and planning time (Kasten,1986).

Other institutional factors which influence working conditions, propensity for further learning, and teacher practice include the curriculum, instructional resources, and the student body. Perhaps the factor which is most influential and differentiated over settings is that of the student body. Teacher commitment to or engagement in further learning and planning seems to be related to the degree of engagement shown by students. A recent review found that teachers in high SES schools engaged more uniformly in the professional role denoted by such activities as increased planning and learning, while the level of commitment to such professional activities by teachers in lower SES schools was more mixed (Ashburn,1989). Certainly, the feedback students provide to their teachers forms an integral intrinsic reward (Lortie,1975) that serves as a motivating factor. If certain lower SES students do not value school, and their parents reduce the value of high school to merely earning a diploma (Metz,1989), it seems that the concomitant lack of student interest could depress the motivation of teachers. In addition, the SES of students is linked to teacher status (Metz,1989), so that teachers in some schools may get little positive feedback and motivation either directly from students or indirectly via the value adults in the community place on the teaching profession.

Available staff development opportunities heavily determine teacher engagement in further learning, and ultimately influence teacher practice. In general, school-based staff development opportunities consist of inservice sessions which focus on non-content related general topics, last only a few hours, and merely transmit information (Korinek, et al,1985; Little,1989). Unfortunately, such inservice is typically minimally effective; successful staff development has been found to be much more extensive and includes intensive coaching and clinical supervision components (Guskey,1986; Showers, et al,1987). In addition to minimal collegial sharing and few opportunities for substantive inservice, many secondary teachers work within environments in which department chairs offer little leadership. Department chairs have been found to vary most in their abilities which have great potential to influence teacher classroom practice (Little,1989; McCarthy & Schrag,1988; Onosko,1989). In lieu of substantive leadership concerning instruction, department chairs frequently give teachers a great deal of autonomy. Such extensive autonomy is certainly one reason why many teachers rely on trial and error experimentation for much of their pedagogic learning. Reliance on such individualistic experimentation as the sole

source of learning about one's pratice can certainly be disfunctional (Ward,1985). Ultimately, institutional factors such as departmental organization and relationships, working conditions, and staff development opportunities are interrelated, and positive ... ditions in each of these areas has been found to be related to effective schools (e.g., Corcoran, 1989; Rosenholtz, et al,1986).

Teacher Background Influences

Various teacher background characteristics influence both the teacher's belief system and propensity to engage in further learning. Although not shown in the Model, clearly basic personality characteristics are important, as well as the "apprenticeship of observation" (Lortie,1975) undertaken by the teacher in his own K-12 school experience. In addition, prior teaching experience also plays a large role in explaining current teacher practice. Nonetheless, this final phase of model development will focus on the role of formal college/university coursework and experience in influencing teacher practice. Secondary teachers seeking certification in conjunction with an undergraduate degree earn on average 54 credits in liberal arts, 39 in their content area and 20 in a minor, and only 28 in education, with 12 of those credits consumed by student teaching (Galluzzo & Arends,1989). The situation of secondary social studies teachers is somewhat unique when one considers that they are often expected to teach courses in several different history and social science fields so that the department can offer a full array of courses. As a result, over 40% of experienced social studies teachers responding to a national survey indicated that they possessed a general social science major, and thus did not possess a content major in any single field (Farmer,1984). Such broad study of history and the social sciences probably precludes in-depth mastery of any one discipline and may limit the development of research and analytical skills necessary for effective teaching and further learning. For example, a national survey of social studies teachers revealed that only 52% could clearly separate fact from opinion (Unks,1985). Those teachers who did not possess a full major in history or a social science area were especially lacking in this critical skill. Development of adequate pedagogical skills may also be difficult given the wealth of theory, empirical studies, and skills to be learned within an average of 16 semester hours of instruction. Pedagogical content knowledge (Shulman,1986) may be especially limited for secondary teachers of social studies; almost one-third of social studies teachers surveyed stated that they had never taken a special social studies methods course (Farmer,1984).

As teacher educators it is especially important for us to understand the links between teacher knowledge (whether acquired during preservice or inservice education), teacher practice, and student learning. During the 1980's a great deal of conceptual and empirical work has elucidated the role of content, pedagogical, and pedagogical content knowledge (Shulman,1987) in successful teaching. A clear link between the quantity, quality, and organization of teacher content knowledge and student learning has been demonstrated in a number of studies (Bodenhausen,1988; Carlsen,1989; Hashweh,1987; Leinhardt & Smith,1985; Wilson & Wineberg,1988). Mastery of scholarship in one's subject area requires both the breadth of liberal arts knowledge and the depth of content knowledge in order to frame prior learning and to facilitate new understandings of the field (Shulman,1987). It seems sensible that mastery of the content area is necessary for successful teaching and that such teachers are capable of increasing their knowledge of the field. While one would hope that teachers with initial content deficits would strive to substantially increase their knowledge early in their careers, that may not be the case. In fact, a study of secondary teachers revealed that the most capable teachers were also the most avid learners in terms of seeking out additional staff development opportunities (Arends,1983).

A number of recent studies have also demonstrated the pivotal role of pedagogic and pedagogic content knowledge in student learning (Brophy,1982; Carlsen & Wilson,1988; Carter & Doyle,1987; Grossman & Richert,1988; Gudmunsdottir,in press; Shavelson,1984; Wineburg & Wilson,1988). The importance of both content and pedagogic knowledge has been demonstrated in an array of studies examining expert-novice differences. In all cases, the cognitive schemata that expert teachers bring to their work have been shown to be better developed, organized, and integrated (Berliner,1987; Carter,et al.,1988; Livingston & Borko,1989). Although this research has tended to contrast novices with experienced expert teachers, it seems logical that similar studies conducted with a group of experienced teachers would reveal substantial differences in the quantity and quality of their content and pedagogic knowledge. In brief, it is feared that teachers lacking well-developed knowledge in these areas would substitute affective for academic goals, and/or retreat to text-bound teaching and resort to a well-controlled classroom as his/her source of authority (Common,1982; Little,1989).

Research Design

Although the array of variables influencing teacher practice is great and complex, the major sources of teacher background knowledge, key staff development learning opportunities, and multiple aspects of working conditions are amenable to policy reforms. One way to better understand the interplay of these influences, especially the longer term effects of preservice teacher education, is to examine the influence of these variables on the teaching of a group of experienced teachers. High school United States History teachers were chosen for the study because all students are required to take this course. Since the data set contains both interview and classroom observation data, it is possible to work backwards through the Model to investigate how the degree of student learning and opportunity observed can be explained by the work environment and prior learning experiences of the teacher. In order to provide a range of work environments for the study (see Table 1 for selected school characteristics), two teachers were chosen at each of six schools which vary according to student SES and racial characteristics, suburban-small town location, departmental organization and staff development, as well as school administrative and financial situation

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Insert Table 1 about here

An attempt was made to insure valid comparisons across teachers (see Table 2 for selected teacher characteristics) by requiring that all be experienced (at least three years) and that they possess the equivalent of a master's degree; nonetheless, the teachers still vary a great deal concerning their content and pedagogic knowledge, as well as years of experience (4-26 years) and teaching load.

Insert Table 2 about here

Due to the limitations placed on sampling by the characteristics mentioned above, all of the teachers involved in the study are male.

A vast array of study data is available for examining the influences on teacher practice as well as the impact of practice on student learning. Information on the teaching environment was collected through department chair and teacher interviews; teacher background information was gathered during several hours of interviews with

each teacher. Teacher practice was observed during nine to ten days of instruction in two of each teacher's classrooms. All six schools studied utilize ability grouping, so whenever possible the teachers were observed in two different ability groups. This design resulted in 5 honors, 6 basic, and 13 regular United States History classes (see Table 2) for examination. Observations were typically conducted during two non-adjacent weeks in an attempt to capture breadth of teaching methods, while still understanding the unit context of the lessons. Intensive field notes were later coded via one minute time segments to discern how time was used instructionally over various formats such as lecture, lecture-recitation, lecture-response, lecture-discussion, seatwork, and audio-visual use. Support of instruction through task information, task elaboration, and feedback was also coded. Finally, non-instructional time was divided into key categories such as organizational chores, behavior management, and free time. Focal student behaviors (such as oral involvement and off-task behavior) denoting degree of engagement were continually noted during observations. In addition, data concerning the content and variety of academic tasks were gathered from observations and interviews.

Starting at the bottom of the Model with teacher practice, the data will allow comparison of teacher goals, assessment of the consonance between these goals and practice, and their appropriateness for developing the critical thinking skills currently promoted by educational reformers. It will then be possible to examine the various influences on teacher practice in order to discern why teachers have differential success in meeting their goals. While it was possible in the course of the study to gather broad data to describe the teaching environment, and some reliable data on which to compare teacher content knowledge (amount of content coursework and content-area reading habits), the data for assessing pedagogic background knowledge was more limited and less quantifiable (presence of graduate education focus, minimal recollections of preservice education, and general indications of the amount and quality of inservice experience).

General Results: Teacher Goals

Virtually all of the 12 teachers mentioned instructional goals such as coverage of content, transmission of cultural information (learning from the past), or citizenship education, goals which are typically stated by social studies teachers (Stanley,1985). (See Table 3 for a list of teacher goals.)

Insert Table 3 about here

While most of the teachers mentioned at some point that certain critical thinking or writing skills had value, only the six teachers at the three more college preparatory schools* (Adams, Jefferson, and Truman high schools- each with more than 70% of students taking the ACT) directly mentioned general skills (e.g. writing) and social science specific critical thinking skills as goals. This finding is of interest given that educational reformers typically intend that teachers strive toward these goals with all students in all schools. Examination of two teachers will show how various influencing factors help to determine the goals teachers select for their students. The one outlier in the sample who professed only a narrow content goal for his students, Mr. Gregory, teaches in the least advantaged school in the sample. The teachers at Grant High School must cope with chaotic school administration and a highly mobile student body comprised of many low-income minority students. To complicate the situation, Mr. Gregory was reassigned to United States History after many years of teaching other social studies classes, only learned of this assignment one-month prior to the start of the school year, and possesses weak content knowledge with less than a minor in history. It is likely that limited content knowledge combined with a negative attitude toward unreasonable working conditions resulted in Mr. Gregory's truncated goals for his students. Mr. Curtis, who teaches at one of the working class comprehensive high schools, Carter High, is more typical of the teachers who stress content and citizenship education goals to the exclusion of general writing or critical social science thinking skills. In the case of Mr. Curtis, it seemed that general background characteristics such as his own K-12 education and preservice college coursework were primary determinants of his goals. He explained how he had grown up in a nearby working class community and then attended a local private college in which he rarely was required to think critically and write papers. These experiences seemed to prompt Mr. Curtis to question the necessity of extensive homework and writing assignments for the mostly non-college bound population at Carter.

* Schools are characterized as either college preparatory or comprehensive (majority of students in general or vocational programs) based on the percent of students who take the ACT test and graduate.

General Results: Consonance Between Goals and Practice

The degree of consonance between teacher goals and practice (see Table 4) was determined through analysis of data collected on selected variables during observation. Teachers were categorized as either highly or moderately successful, having mixed success, or being unsuccessful in meeting their particular goals.

Insert Table 4 about here

Since it has already been shown that goals differ according to the characterization of the high school as college preparatory or comprehensive, analysis will begin with the teachers at the three college preparatory high schools who include general and critical social science thinking skills among their goals. The most fascinating finding in this area is that all four of the teachers who achieved success in meeting their goals with both of their classes teach in the college preparatory schools, Adams (Mr. Anderson), Jefferson (Mr. Jewel and Mr. Jones), and Truman (Mr. Taney). Examining these four teachers as a group will allow explication of the method of analysis. First, three variables were used to assess the ability of the teachers to engage students in instruction. These teachers protected the vast majority of time for instruction (no more than 15% and typically less than 10% of time was used on average for non-instructional purposes); engaged students orally in instruction (on days devoted to oral instruction, the teachers typically involved almost half of the students on average); and kept the vast majority of students consistently on-task (on average no more than 13% of students were observed to be off-task more than three times during a class period). Besides engaging the students for a maximum amount of available time in instruction, these successful teachers exhibited three characteristics of rigorous and high quality instruction. First the in-class and homework tasks assigned by these teachers were challenging to the students (these tasks included variety, some substantive writing was frequently required, higher order skills were often required to complete the tasks, and there was evidence of the tasks being integrated with in-class instruction); students were held highly or moderately accountable for completion of tasks (expectations were high, tasks were carefully graded by the teacher, and students were given written and oral feedback on tasks, with the most successful teachers giving this feedback consistently, accounting for approximately 1.7 to 6% of time during a 40 to 45 minute period); and relative to the rest of the sample, a sizable portion of oral instructional time involved students in the substantive interactive

categories of response or discussion as opposed to more rote recitation (at least 3.5 and usually over 10% of oral instructional time). The four teachers who were observed to meet their goals were rated positively on the majority of these six criteria, ensuring that students were engaged in high quality instruction, and had ample opportunity to meet the goals set out by the teacher.

The eight other teachers observed appeared to seriously compromise their goals on one or more of these key characteristics of teacher practice. For example, not all of the teachers at the college preparatory schools met with unqualified success in both of their classes, invalidating the hypothesis that positive institutional factors, working conditions, and staff development opportunities could completely overcome differences in teacher background factors. Possible explanatory influences for Mr. Armstrong (Adams) and Mr. Thomas (Truman) meeting with only mixed success in their regular classes and lack of success in their basic classes will be discussed in the next section. In brief each teacher seemed to strive toward the goals shared by all teachers at these college preparatory schools (e.g., requiring essay writing, some substantive discussion, or giving meaningful feedback to students); however, other aspects of their practice appeared to hamper goal attainment. Mr. Armstrong compromised his goals for both classes by consuming nearly 20% of each short (40 minute) class period in non-instructional pursuits and failed to engage basic students in instruction (usually 40% of students were off-task at least three or more times during a class period). While Mr. Thomas devoted only a moderate amount of time to non-instructional pursuits (9-12% on average), typically a quarter of students were off-task frequently during a class period, and the amount of oral involvement was low and recitation oriented. Although the degree of challenge was moderately high in his regular class, the basic students were rarely challenged. In fact, no homework was ever assigned, in-class seatwork tasks could typically be completed quickly, and the students were not expected to read the text nor were they held accountable for the information contained in the relatively frequent audio-visual materials.

The six teachers at the three less advantaged comprehensive schools appeared to be less successful at meeting a more narrow set of goals. Only Mr. Hurley's honors class at Hoover High seemed somewhat successful in that students were engaged and held accountable for moderately challenging work. Nonetheless, the amount of substantive response:discussion in this class was much lower than that achieved by all three of the teachers who were successful with their honors classes. Two of the teachers, Mr. Hyde at Hoover and Mr. Curtis at Carter, seemed to meet with mixed success in meeting their goals. The classes of these teachers seemed to resemble those termed "high production"

by researchers of academic work in secondary classrooms (Doyle & Sanford,1985). These students were engaged in instruction, and were kept busy and held accountable for tasks which exerted only a low level of challenge. For example, tasks were routine (copying vocabulary definitions from the text) and the tendency of the teacher to merely glance at the work to give it a grade prevented the teacher from giving students substantive feedback. Finally, three teachers (Mr. Clark, Mr. Gage, and Mr. Gregory) who worked with a range of ability groups in the two least advantaged schools in the sample (Carter and Grant) seemed to have the least success in meeting their goals. The goals of these teachers were continually compromised by high rates of off-task behavior, low to somewhat moderate accountability and challenge, and typically little meaningful oral involvement of the students. In line with the limited nature of the goals Mr. Gregory held for his students, he was also the outlier in the sample concerning the lack of success in his teaching practice. He showed a lack of commitment to his teaching that could probably only be explained by a complex combination of personality characteristics, lack of content and pedagogic knowledge, and negative working conditions. In fact, very little teaching actually took place in Mr. Gregory's classes. Nearly one-third of class time was spent in non-instructional pursuits, and less than 8% of time was typically spent in oral instruction. Since students could succeed on weekly "tests" by merely searching worksheets and their notebooks (containing vocabulary definitions dictated by the teacher) for answers, it is extremely doubtful that these students learned any of the content of United States History.

Results: Influences on Teacher Practice

Analysis of influences on teacher practice will focus on three areas: aspects of the teaching environment, teacher content knowledge, and teacher pedagogic knowledge. General differences among the teachers on these influencing factors will be noted, then representative teachers will be further analyzed. Though detailed examination of each teacher's situation is beyond the scope of this paper, this section will conclude with a more comprehensive case study comparison of two teachers.

School Environment Influences

It has already been shown that school level differences partially explain differences in teaching goals, but can aspects of the school environment also explain differences in instruction? For example, it is somewhat disconcerting that the teachers who were quite successful in meeting their goals were found only in the three college

preparatory schools. Certainly one possible explanation is that these teachers work with a student population experiencing a relatively low degree of educative difficulty. Students probably possess fairly strong general skills, a high level of general social studies knowledge, and come often from professional families who highly value education. In contrast, teachers at the three comprehensive schools, especially Grant and Carter, work with many students experiencing high rates of educative difficulty due to lack of family support for education, high mobility and absence rates, and lack of general reading and writing skills. Resources seemed more limited at these schools; for example, audio-visual materials were harder to obtain, and especially at Grant, basic items such as books were in short supply. Perhaps even more important, the staff development situation at each of these three schools appeared in some way problematic. One major characteristic dividing the college preparatory from the comprehensive schools was the nature of departmental leadership. While the three college preparatory schools each had a strong social studies chair who was a member of the department, the smaller high schools, Hoover and Grant, were organized into multiple-discipline departments, such that the Hoover chair was a foreign language specialist and the Grant chair was from the theater department. At Carter the teachers were supervised by a social studies area chair; however, this individual was responsible for the social studies staffs in three high schools. Besides the likelihood that these three area chairs were limited in their ability to lead teachers effectively on instructional matters (Little,1989), funds for department level inservice or individual teacher engagement in external staff development activities were extremely limited.

The negative influence of these environmental limitations on teacher practice can be illustrated through the situation of teachers at Hoover and Grant High Schools. In many ways, Hoover appears to be a typical small town middle America high school in which the teachers were quite positive concerning their teaching environment. What is striking about this school is that extensive administrative staff development attempts to implement a Madeline Hunter based instruction and evaluation system appeared to have absolutely no impact on the teaching of Mr. Hurley and Mr. Hyde. Instruction, tasks, and tests observed seemed little influenced by the school's press to educate teachers concerning higher level objectives; the vast majority of tasks centered on recall and comprehension skills. The negative impact of the teaching environment was most evident at Grant where a curriculum in flux, ineffective school administration, lack of materials, and absence of social studies-related departmental leadership hampered effective teaching. Though there was evidence of collegial sharing in the department, discussion concerning the financial crisis facing the

school took precedence over instructional issues. Both of the teachers at Grant, Mr. Gage and Mr. Gregory, were among the three least successful teachers in the sample. While the negative environment seemed to directly influence Mr. Gregory's nearly complete withdrawal from active teaching, the school level influences on Mr. Gage's practice may have been less direct. Despite the negative environment, Mr. Gage seemed very committed to his teaching, possessed strong content knowledge, and offered his students fairly challenging tasks. Nonetheless, pedagogic problems such as inability to keep students on-task, and lack of accountability and integration of tasks could perhaps have been remediated by a more effective staff development program.

In contrast, the teachers at the three college preparatory schools benefitted from seemingly unlimited resources and materials, a high level of collegial interchange related to content and materials, and multiple staff development opportunities. While most of the students in these schools faced few serious educative difficulties, special note should be made of the bimodal student distribution at Jefferson High School. Although many Jefferson students come from affluent professional families, just under half of the students represent minority groups, with approximately a fifth of the student population coming from low-income families. Students with relatively high degrees of educative difficulty were heavily represented in the basic and regular classes; nonetheless, school and department level programs/staff development opportunities targeted at increasing the learning of these students probably played a role in the successful teaching exhibited by Mr. Jewel and Mr. Jones Of course, while four of the teachers working within these positive environments were highly successful in meeting their goals, two of the teachers met with only mixed success. One potential explanation for two of the teachers in these schools to be less than highly successful could be the highly individualized nature of staff development opportunities. It is possible that the high level of autonomy given to teachers may result in serious problems with teacher pedagogy going unnoticed, especially for Mr. Armstrong at Adams.

The Influence of Teacher Content Knowledge

Of the teacher background characteristics, teacher content knowledge is among the most important and most easily measured. A measure of content expertise was constructed based on the number of history courses taken by the teachers at the undergraduate or graduate level; teachers also indicated in the interview their typical reading habits as far as acquiring additional content knowledge. (See Table 5 for data on teacher content knowledge.)

Insert Table 5 about here

The sample varied a good deal in terms of amount of content coursework; five could be called experts in that they possessed graduate work in history totalling more than a major, three teachers possessed the equivalent of a major (with two of these teachers completing half of the major coursework at the graduate level), and four of the teachers had a minor or less in history. One of the most fascinating findings regarding content knowledge is that only the seven teachers who possessed both a major in the field and substantive graduate work in history meaningfully extended their content knowledge by reading full-length historical works and/or journal articles. These teachers who would appear to have competence in the field and continue to extend their content knowledge are not equally distributed across schools. With one exception, these teachers are found in the three college preparatory schools which evidently place a high priority, and the necessary resources, on obtaining content experts to teach in their departments. The other content expert had taught 25 years at Grant, and was hired at a time when the school enrolled a more college-bound population. Of the remaining five teachers, three with a minor to a major only extended their content knowledge by reading other K-12 texts and weekly newsmagazines, while the last two teachers hesitated to answer this interview question and indicated either occasionally referring to other texts or to the newsmagazines.

The influence of content knowledge on teaching can first be shown by examination of the four teachers possessing a minor or less in history. Two of these teachers, Mr. Clark and Mr. Gregory, were among the three least successful teachers in meeting their goals. As predicted by prior research, these teachers seemed to some extent to replace academic with affective goals, relied on the text and worksheets to guide much of instruction, and failed to organize content coherently around themes or even a chronological narrative so that instruction appeared to be a stream of poorly connected facts and topics. The three teachers with minimal to moderate content knowledge and little further substantive learning (Mr. Hurley, Mr. Hyde, Mr. Curtis) exhibited mixed success in meeting their goals. Although these three teachers were organized and typically kept students on-task, these "high production" classes offered little challenge to students; tasks and in-class oral instruction were not integrated conceptually or thematically.

The group of seven teachers with highly developed content knowledge augmented by further reading in the field contained the four most successful teachers in the sample (Mr. Jewel, Mr. Jones, Mr. Anderson, and Mr. Taney). Their extensive subject-matter knowledge was evidenced by conceptually and thematically organizing instruction, including recent historical theory in oral instruction, the ability to integrate written tasks and audio-visual presentations with oral instruction, and evidence of an inter-disciplinary approach to the study of history. As will become clear from the upcoming discussion of pedagogical knowledge, content expertise alone is not enough for successful teaching. For example, the adverse conditions faced by the one less successful content expert, Mr. Gage at Grant, have already been detailed, but the bulk of his instructional difficulties seemed to stem from inappropriate pedagogical decisions. Perhaps in response to the changing abilities of students attending Grant High School, Mr. Gage supplemented his often insightful narrative lectures with such rote tasks as copying notes from the board and requiring students to memorize isolated facts for quizzes. The lack of integration between homework and in-class activities, minimal opportunities for students to engage actively in class activities, and lack of effective classroom management techniques resulted in more than 40% of students being frequently off-task during a class period. To a less extreme extent, the other content experts who experienced mixed success (Mr. Armstrong and Mr. Thomas) appeared to make pedagogical decisions which limited the opportunity of some students to learn the often well-crafted information/material presented.

The Influence of Teacher Pedagogic Knowledge

The assessment of the teachers' pedagogical knowledge is much more difficult an undertaking. Most of the teachers had few recollections of prior coursework and were hard pressed to identify particular inservice or staff development opportunities that had a distinct influence on their teaching. The vast majority of these social studies teachers felt that their education courses were of little value; perhaps only the student teaching experience had made an impression that remained 4-26 years later. This small sample of social studies teachers is probably not unusual among secondary teachers in terms of their general preference for content-related inservice (Little,1989), and their concomitant disregard for a good deal of pedagogically oriented inservice. Only one teacher, Mr. Jewel at Jefferson High School, breaks from this pattern. One of the strongest teachers in the sample and the only one of five teachers to be successful with a basic class, Mr. Jewel possessed strong content knowledge and worked within a highly resourced and supportive department. He was the only teacher to speak positively

about his preservice education background (recalled rather vividly after 12 years of teaching), and he mentioned colleagues and several staff development opportunities as key determinants of his success. For example, he noted that a school-based intensive in-service course in TESA (Teacher Expectations and Student Achievement) had definitely improved his teaching of the basic students, and a university summer course in teaching writing had caused him to redesign many of his writing assignments for all of his students.

At this point it would seem informative to return to the two content experts mentioned above who appeared to have deficits in pedagogic knowledge. The difficulty in assessing pedagogic knowledge and defining degree of success in meeting goals can be seen by examining the case of Mr. Thomas at Truman High School. Mr. Thomas had completed the equivalent of a major in history (half at the graduate level), updated his knowledge through journal reading, and had completed a number of graduate education courses. While Mr. Thomas appeared highly successful at crafting a series of accurate and highly engaging lectures covering the narrative of United States History, on average a quarter of his students were frequently off-task and the basic students were offered very little challenge in terms of reading and writing tasks. Although Mr. Thomas seemed to achieve only mixed success in meeting his goals according to the data collected over the two weeks of observation, he is highly respected by the department chair, and his students reportedly score near the top of the distribution on district wide criterion-referenced tests. Certainly, one must be cautious when trying to formulate conclusions from this type of research. While Mr. Thomas' pedagogical methods are fairly narrowly construed, it may be entirely possible that his content competency and streamlined goals result in substantial student learning, demonstrating that his pedagogical knowledge is indeed adequate.

On the other hand, the other teacher with strong content and a mixed degree of success, Mr. Armstrong at Adams, seems more clearly lacking in key pedagogical skills and knowledge. A 22 year veteran, Mr. Armstrong had not taken any formal university education coursework since his preservice program. Although there was evidence in the observations that this teacher enjoyed history and possessed a wealth of content knowledge, much instructional time was wasted in both of his classes and over 40% of the students in the basic class were frequently off-task. Especially in the basic class, Mr. Armstrong evidenced a nearly complete lack of effective classroom management skills; however, it was unclear if he recognized the extent of the off-task behavior and how detrimental the situation could be to student learning. Not only did this teacher seem to lack pedagogic knowledge, but the individualized and laissez-faire nature of the

staff development system proved to also be detrimental. For example, Mr. Armstrong noted that there was supposed to be a school-wide support group of basic teachers; the group had never met. Such a high level of teacher autonomy indeed appeared to hamper the further learning of this teacher and his students.

Case Study: Comparison of Mr. Anderson and Mr. Hurley

Perhaps the best way to examine the influence of the teaching environment and teacher content/pedagogic knowledge is to examine the case of two teachers with approximately the same work load. Only two teachers in the sample coped with an overload of four preparations, Mr. Anderson at Adams (the most affluent school) and Mr. Hurley at Hoover High (the small town comprehensive). Both teachers taught regular and honors United States History, honors or AP economics, and one other elective (AP political science for Mr. Anderson and geography for Mr. Hurley). Due to Mr. Anderson's heavy grading load that included two honors and two AP classes, he was released from his duty period for an additional planning period. Although Mr. Hurley's grading load was not so extensive, much of his extra time was consumed by coaching two sports. Mr. Hurley was not alone in having to find time for coaching duties. Four other sample teachers were involved in coaching, and it would seem that social studies teachers nationwide are two to three times more likely than teachers of other academic areas to coach (Rutter,1986). The heavy workload resulted in both teachers reducing their preparation time for their regular classes. Mr. Anderson openly expressed his guilty feelings in this regard and explained that he required fewer writing assignments of his regular students due to his heavy grading load. In Mr. Hurley's regular classroom the reduced preparation time took the more detrimental form of off-the-cuff decision making, repetitive rote seatwork tasks, and in-class student grading of student work.

These teachers experienced differential degrees of success in meeting their goals even though their work load was comparable. As was evident from earlier descriptions of their goals and practice, Mr. Anderson was included in the group of four highly successful teachers, while Mr. Hurley achieved mixed success in meeting his goals. Of course, the abilities of their honors and regular groups probably differed somewhat (since Hoover High did not form any basic classes, the regular group was more heterogeneous); nonetheless, Mr. Hurley aspired to a more truncated set of goals. Substantial disparities in content knowledge seemed to be a major reason for their differential degrees of success in coping with the workload. Mr. Anderson had completed a master's degree in history (Asian and European) as well as a law degree;

both his undergraduate and master's degrees were earned at nationally ranked private universities. Despite a rather small amount of his formal coursework taken in United States History, Mr. Anderson spoke of intensive self-study during his first year of teaching (reading the Harvard American Nationalism series), as well as subsequent journal and history reading in order to build up his expertise in this specific area of history. In contrast, Mr. Hurley's undergraduate work was in economics and general social science, with a couple of additional history courses taken at the graduate level. He was in the process of completing his master's degree, and had a very nonchalant attitude toward selection of his remaining courses. Both of these degrees were completed at satellite campuses of a state university system, and this education had evidently not inspired a love for additional substantive content reading. The depth and extensive organization of Mr. Anderson's content knowledge was revealed in his ability to approach history in an inter-disciplinary fashion. History concepts under discussion were often buttressed by insights from the fields of economics, law, and literature. For example, Mr. Anderson frequently posited economic interpretations of American History (especially during a unit on the Crash and the Depression). Even though Mr. Hurley also taught economics and history, and was observed teaching similar content, there was no evidence of utilizing his knowledge in an inter-disciplinary manner.

These teachers did differ in their years of experience with Mr. Anderson teaching for 16 years and Mr. Hurley only in his ninth. Perhaps once Mr. Hurley completes his graduate work and has several more years to reflect on that recently acquired knowledge, his teaching will radically change. Unfortunately that seems doubtful. The love of learning evidenced by Mr. Anderson is a habit probably acquired early in his K-12 education and strengthened by the tools acquired in his rigorous university work. In addition, the social studies department at Adams highly values continued content learning and offers multiple staff development opportunities. In contrast, much of Mr. Hurley's energy and collegial interchange concerns coaching, and he sees little value or relevance in the school adminstration's attempts to improve instruction through a program of "Hunterization" (see Garmon & Hazi,1988 for similar teacher reactions). Given Mr. Hurley's love of history trivia (e.g., the WWII review sheet for the honors class contained 178 unrelated terms and names), it is likely that he never acquired history knowledge in an in-depth manner which would allow him to synthesize information and appreciate the utility of overarching themes and concepts. Altering his belief system and practice would probably require more than a random university course or school requirements that he follow the Hunter model and code his

test questions according to Bloom's taxonomy. Clearly, Mr. Anderson, with his extensive knowledge base and supportive school environment, is better able to succeed with this heavy load than Mr. Hurley.

Policy Implications

The policy implications that flow from this research are not unique; instead, this analysis of twelve teachers in six high schools supports many reforms already called for by a number of educators. First, there is clearly some minimal level of acceptable working conditions that must be achieved before other reforms could have impact (Ginzberg,et al.,1987). Certainly, the negative environment faced by the teachers at Grant is a case in point. Even relatively simple reforms such as ensuring that basic materials are available can make a big difference to a teacher's practice. For example, teachers in the three college preparatory schools had some audio-visual materials accessible in the building. This might prevent the problem observed in the other three buildings in which teachers showed films out of sequence due to poor availability. Another particular concern raised by the study is that of work load. Clearly four preparations is too much, and even three preparations may be a burden for teachers with many extra-curricular commitments and limited content knowledge.

Staff development appears critical to offsetting the possibly negative results of teachers' learning solely through their own trial and error experimentation (Little,1989; National Board,1989; Ward,1985). As a first step it would seem that all high schools could benefit from having department chairs available for each subject-matter area. To be effective, chairs must strive for a balance between providing autonomy and offering substantial leadership on instructional issues. The collegiality evidenced in most of the six schools in the study may not often extend beyond the sharing of content knowledge and materials. In order for colleagues to help improve practice and increase pedagogic content knowledge, more substantive forms of interaction, such as peer observing and coaching, are probably necessary. More extensive inservice classes which include coaching and practice of skills, such as TESA, would seem to be warranted, especially for the teachers of basic classes.

Finally, those of us involved in teacher education may have to be more aware of our dual tasks. Our preservice programs must prepare students to be successful in their initial teaching assignments, and we must also educate teachers who will continue their own learning. As far as this sample of teachers is concerned, the completion of a major and graduate work in history was related to successful practice and continued learning. Perhaps it is irrelevant whether this learning occurs at the graduate or

undergraduate level, as long as the subject is studied in enough depth that the teacher can synthesize historical information and understand how new knowledge is formed in the discipline (Bradley,1988; National Board,1989). Education for further learning in the pedagogic realm is probably extremely important for secondary teachers who are so content oriented (Little,1989). Although the study data shed little light on the question of the appropriate quantity and content of education study, it is clear that we have much to learn concerning engendering the respect of secondary teachers for pedagogic knowledge. One potential avenue for success may be to stress the intersection of content and pedagogy in the form of pedagogic content knowledge. Besides leaving the teacher preparation program with an initial repertoire of effective teaching and classroom management skills, the teacher must have acquired an appreciation of educational research and theory that will prompt them to expand their initial pedagogic knowledge base to meet the challenges that will arise in the course of their teaching careers. Ultimately, the opportunity to learn concept applies both to students and their teachers. The learning of students may well depend on how effectively teacher educators, whether in the university or the school, can facilitate the continued content and pedagogic learning of teachers.

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Appendix

Model of Influences on Teacher Practice

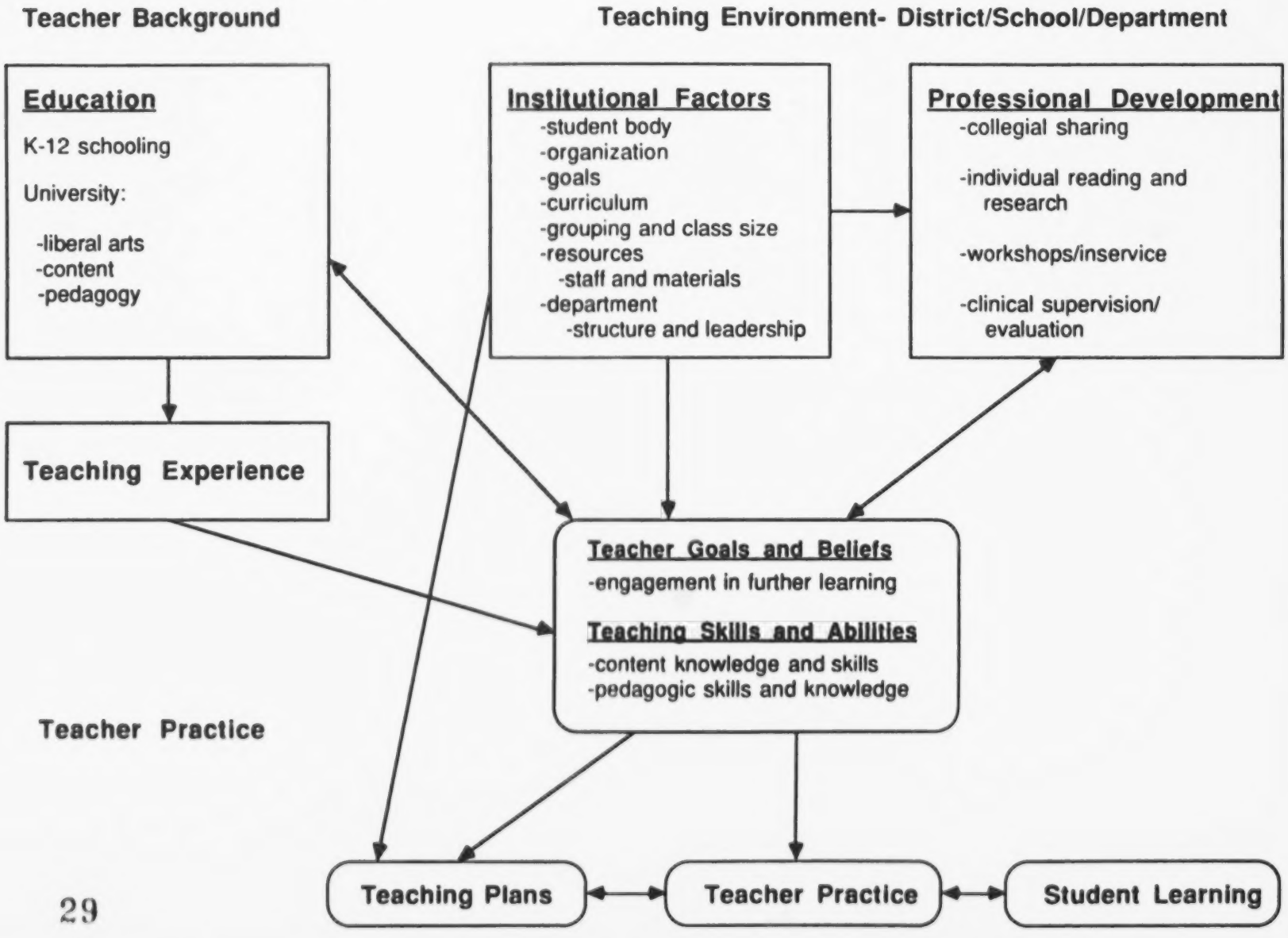

Table 1

Selected School Characteristics*

School	*Adams	*Jefferson	*Truman	Hoover	Carter	Grant
School Enrollment	1798	3021	1655	1435	1472	913
Cost Per Pupil	$8,021	$7,826	$7,964	$3,232	$6,760	$6,405
% Students Low-Income	0.4	22.1	4.4	11.2	25.3	37.2
% Students White	88.0	51.5	83.2	83.4	36.9	24.8
% Students Black	0.1	41.8	1.8	1.3	43.4	63.2
% Students Hispanic	1.1	3.6	8.8	13.2	18.8	8.9
% Students Asian	10.8	3.1	5.8	1.1	0.4	2.4
Mobility Rate	2.8	6.4	16.9	18.3	24.9	28.5
Attendance Rate	93.4	93.7	92.7	91.9	89.4	82.8
Graduation Rate	98.0	91.2	90.9	87.2	67.1	62.9
Average ACT Score	21.6	19.9	19.3	18.8	16.3	13.4
% Students Taking ACT	97.4	77.6	72.1	35.7	25.1	56.7

*Data from 1988-1989 School District Reports to the State

All schools are located in suburban comunities of a major Midwestern metropolitan area, with the exception of Hoover, which is located in a small town.

* College preparatory high schools

Table 2

Selected Teacher Characteristics

School/ Teacher	Classes			Years Exp	No Preps	# Sports Coached	Teacher Cert		
	Honors	Regular	Basic				BA	Post-BA	MA
Adams H.S.									
Mr. Anderson	x	x		16	4				x
Mr. Armstrong		x	x	22	3			x	
Jefferson H.S.									
Mr. Jewel	x		x	12	3		x		
Mr. Jones	x	x		26	3		x		
Truman H.S.									
Mr. Taney		x x		4	2	1		x	
Mr. Thomas		x	x	9	2	3	x		
Hoover H.S.									
Mr. Hurley	x	x		9	4	2	x		
Mr. Hyde		x x		12	2	1	x		
Carter H.S.									
Mr. Clark		x	x	20	2		x		
Mr. Curtis		x x		12	3	2	x		
Grant H.S.									
Mr. Gage	x		x	25	3	retired	x		
Mr. Gregory		x	x	26	3	retired		x	
Totals	5	13	6				8	3	1

Table 3

Goals Stated by Teachers

School/Teacher	1-Content	2-Cultural Literacy	3-Citizenship Education	4-Critical Soc. Stud. Skills	5-General Skills	6-Responsibility
Adams H.S.						
Mr. Anderson	x	x	x	x	x	
Mr. Armstrong	x	x	x	x	(Basic Sts)	
Jefferson H.S.						
Mr. Jewel	x			x	(Love Learning)	x
Mr. Jones				(Research Skills)	(How to learn)	
Truman H.S.						
Mr. Taney	x	x		x	x	
Mr. Thomas	x			x	x	
Hoover H.S.						
Mr. Hurley	x	x	x			
Mr. Hyde		x				
Carter H.S.						
Mr. Clark	x	x	x			
Mr. Curtis	x	x				x
Grant H.S.						
Mr. Gage	x	x				
Mr. Gregory	x					
Totals	10	8	4	6	6	2

1-Content: Any goal mentioning the content of US History.
2-Cultural Literacy: Goals concerning cultural information; learning from history and our past mistakes.
3-Citizenship Education: Goals concerning educating students to uphold democratic responsibilities.
4-Critical Social Studies Skills: Critical thinking skills such as understanding another point of view.
5-General Skills: Primarily reading and writing skills.
6-Responsibility: Developing responsibility or self-discipline in students.

Table 4

Degree of Consonance Between Goals and Practice*

Consonance	High	Moderate	Mixed	Low*
Goal Orientation				
Content, Culture, & Critical Skills				
Jefferson H.S.	Jewel-H# Jewel-B			
Jefferson H.S.	Jones-H (Low Account)	Jones-R (Low St Part) (Low Account)		
Adams H.S.	Anderson-H Anderson-R		Armstrong-R (High Non-Instr) (Low St Part) (Low Accountability)	Armstrong-B (High Non-Instr) (High Freq Off-Task) (Low Accountability)
Truman H.S.	Taney-R Taney-R		Thomas-R (Low St Part) (Low Respon Disc) (High Freq Off-Task)	Thomas-B (Low St Part) (Low Respon Disc) (High Freq Off-Task) (Low Challenge)
Content & Culture				
Carter H.S.			Curtis-R Curtis-R (Low St Part) (Low Respon Disc) (Low Challenge)	Clark-R Clark-B (Low Challenge) (Low Accountability) (High Freq Off in B) (Low St Part in R)
Hoover H.S.		Hurley-H (Low Respon Disc) (Low Challenge)	Hurley-R (Low Respon Disc) (High Non-Instr) (Low Challenge)	
Grant H.S.				Gage-H Gage-B (Low St Part) (Low Respon Disc) (High Freq Off-Task) (Low Accountability)

Consonance	High	Moderate	Mixed	Low
Goal Orientation				
Content or Culture				
Hoover H.S.			Hyde-R Hyde-R (Low St Part) (Low Respon:Disc) (Low Challenge)	
Grant H.S.				Gregory-R Gregory-B (High Non-Instr) (Low St Part) (High Freq Off-Task) (Low Challenge) (Low Accountability) (Low Respon:Disc)

Notes

*Teachers categorized according to typical practice and data averages on the following variables:

High Non-Instructional Time:	More than 17% of total time. Characterizes a quarter of sample. (Low teachers under 9%.)
Low Student Oral Participation:	Less than 50% participate orally on days when oral instruction more than 40%. Characterizes half the sample.
High Student Frequently Off-Task:	More than 24% of students are frequently (more than 3 times per period) off-task. Characterizes a quarter to third of sample.
Low Challenge:	Minimal or no homework; tasks typically objective or search and match with no substantive writing; tasks often completed as seatwork; tasks not integrated with oral instruction.
Low Accountability:	Confusion about task requirements; either student grading or teacher grades with a glance; minimal and/or delayed feedback.
Low Oral Response:Discussion:	Less than 3.5% of oral time spent in these categories of more substantive discussion as opposed to recitation. Characterizes a third to half the sample. (High teachers >10%.)

[a]Given the moderate sampling of lessons (9-10 per teacher/class), data on individual characteristics should be interpreted cautiously. Nonetheless, examination of all six criteria permit holistic assessment of consonance.

[b]Low consonance is characterized by a combination of high off-task behavior and either low challenge or low accountability, plus other complications.

[c]H: Honors, R: Regular, B: Basic

Table 5

Teacher Content Knowledge

School/ Teacher	Content Background BA	Content Background MA	History Equivalent > Major w/Grad	History Equivalent Major w/Grad	History Equivalent Major BA	History Equivalent Minor BA	Reading Habits* Strong	Reading Habits* Ave.	Reading Habits* Weak
Adams H.S.									
Mr. Anderson	Int. Relations	Hist(World) + JD	x				x		
Mr. Armstrong	Hist(US/World); Geog	Hist (US)	x				x		
Jefferson H.S.									
Mr. Jewel	Hist(US)	Hist(US); few ed.	x				x		
Mr. Jones	English	Eng; Hist(US)		x			x		
Truman H.S.									
Mr. Taney	Pol Sci; Hist(US/Euro)	Hist(US/Euro)	x				x		
Mr. Thomas	Gen SS; Health	Ed; Hist(US)		x			x		
Hoover H.S.									
Mr. Hurley	Econ; Gen SS	Ed; few SS				x		x	
Mr. Hyde	Hist(US/World);Eng	Ed-Special(BD)			x			x	
Carter H.S.									
Mr. Clark	Gen SS; English	No MA: Ed; Eng				x			x
Mr. Curtis	Pol Sci	Ed; Adm				x		x	
Grant H.S.									
Mr. Gage	Hist(US/Euro)	Hist(World)	x				x		
Mr. Gregory	Gen SS	Ed Adm				x			x
Totals			5	2	1	4	7	3	2

*Reading Habits- Strong: history books and journals; Average: weekly newsmagazines and K-12 texts; Weak: occasional reference to K-12 texts or newsmagazines.